NATURAL RESOURCES CONSERVATION SERVICE

CONSERVATION PRACTICE STANDARD

PRESCRIBED BURNING

(Ac.)

CODE 338

DEFINITION

Applying fire to predetermined areas under conditions that the intensity and spread of the fire are controlled.

PURPOSES

This practice will be applied as part of a conservation management system to support one or more of the following purposes:

- Maintain or restore desired plant community
- Improve forage quality and/or quantity
- Improve or manipulate grazing distribution
- Reduce excess plant litter
- Enhance seed production
- Suppress woody plant invasion
- Improve wildlife habitat
- Enhance wetland diversity

CONDITIONS WHERE PRACTICE APPLIES

This practice is applicable on rangeland, forestland, native pasture, pastureland, native hay meadows, wildlife areas, wetlands, and areas retired from agricultural production.

CRITERIA

General Criteria applicable to prescribed burns

Wind must be steady from 4 to 15 miles per hour. Gusty winds and/or winds shifting greater than 45 degrees from the prevailing wind direction will be avoided. Calm conditions (less than 3 miles per hour) should be avoided.

Relative humidity will be between 25 and 54 percent for fuel model 1; 45 to 90 percent for fuel model 3.

Air temperature will be between 32 and 80 degrees Fahrenheit for fuel model 1; 25 to 80 degrees for fuel model 3.

Soil moisture from zero to 10 inches will be sufficient to ensure protection of root crowns and ensure continuation of plant growth after burning. Soil moisture will be moist to wet to the touch.

Soil limitations and restrictions will be based on Section 430-VI, Subpart 610.10-7, Prescribed Burning, of the National Soils Handbook.

Fuel load will be at least 1200 pounds per acre of fine fuel (dry grass and litter) with at least 50% standing.

Firebreaks will be utilized to contain the area to be burned. Mechanical, chemical, wetline, burned, natural, or structural firebreaks will be used alone or in combination to contain the burn. Refer to Firebreak Standard (394) for criteria to design specifications for firebreaks.

Weather conditions will be monitored 3 days in advance of planned burning dates. Fire crews and equipment need to be on standby status to take advantage of favorable burning conditions.

Weather service will be contacted for 24- hour weather forecast prior to burn. Monitor on-site weather conditions immediately before and during burn. Burning will be postponed, if weather conditions are, or expected to fall, outside of the Prescribed Burning Plan's prescription.

Fire danger categories of VERY HIGH or EXTREME, issued by the National Weather Service, will restrict or prohibit prescribed burning.

Wind direction must be planned to carry smoke away from major roads or highways, bridges, airports, or occupied residences. When burning within 1 mile of an airport, secure necessary permission from airport authorities.

Temperature inversions prevent vertical rise of smoke, causing it to remain in the lower atmosphere. Burning will be avoided during temperature inversions.

Additional criteria to maintain or restore desired plant community or to improve forage quantity and/or quality

Frequency of burning should not be more than once every four years, to stimulate vigor and production of warm-season grasses or to maintain diversity of mixed grass communities.

Time of burning should be just prior to or soon after dormancy break of target species in the spring. A rule-of-thumb is to burn when the desired species has less than one inch of new growth.

Key species to be maintained or restored will be identified in the burn plan.

Additional criteria to improve or manipulate grazing distribution

Frequency of burning will be based on extent and duration of grazing responses, but should not be more than once every four years.

Key grazing areas and key species should be adjusted in relation to grazing responses.

Time of burning should be just prior to or soon after dormancy break of key species in the spring.

Additional criteria to reduce excess plant litter

Burning for maintenance of ungrazed wildlife areas, grass stands under long-term retirement programs, or ungrazed forestland should be carried out once every 3 to 4 years, depending upon amount of litter accumulation and vigor of stand.

Burning to reduce excess plant litter prior to seedbed preparation for grass seedings and reinforcement seedings should be carried out immediately preceding such seedings.

Burning to reduce wildfire hazard should be based upon local situations and priority of protection needed.

Additional criteria to suppress woody plant invasion

Time of burning to suppress **deciduous, resprouting species**, such as western snowberry, should be in late summer or early fall when the target species are most susceptible to root damage. **Coniferous species,** such as cedar, should be burned after desirable herbaceous species start growth. Coniferous species are more susceptible to fire when they are small, from one to three feet tall.

Frequency of burning should be based on regrowth of target species, weighed against forage and/or wildlife habitat considerations.

Target species to be suppressed will be identified in the burn plan.

Potential of fire damage to non-target species will be recognized.

Additional criteria to improve wildlife habitat or to enhance wetland diversity

Frequency of burning should not be more than once every four to five years to maintain diversity of upland habitat, once every two to three years to maintain diversity of wetland habitat.

Time of burning should be based on the objectives of habitat manipulation for targeted wildlife species. Spring burns tend to enhance many warm-season grasses, but may be detrimental to cool-season grasses and annual forbs. Spring burns usually increase stem density of resprouting woody species, while summer burns tend to reduce vigor and produce root mortality. In some cases winter burns may be most effective to enhance wetland diversity.

Time of burning to enhance grassland habitat should be in the spring, just prior to or soon after dormancy break of desired wildlife preferred species. A rule of thumb for grasses is to burn when the desired species have less than one inch of new growth.

Limited habitat in the home range of targeted wildlife species should limit the burn area to 1/3 to 1/2 of the total area managed for wildlife habitat.

Key animal species and habitat component to be improved or enhanced will be identified in the burn plan.

Potential of fire damage to non-target plant and animal species will be recognized.

CONSIDERATIONS

Precautions are needed to avoid air contamination from toxic substances or poisonous plants that may exist in an area to be burned. Smoke from burning poison ivy and other poisonous plants can be toxic to susceptible individuals and animals.

Precautions are needed in the vicinity of high power electrical transmission lines to prevent electrical discharge, due to high concentrations of carbon particles suspended in smoke columns. Burning plans will be designed and applied so large fire fronts or high, dense smoke columns will not cross under or contact high power electrical transmission lines.

Precautions may be needed to avoid impacts to threatened and endangered plant and animal species. Refer to FOTG Section II - Threatened and Endangered Species, for listings of potential impacts from prescribed burning.

Assure that easements, leases, or contracts do not contain a "no burning" clause on areas planned for prescribed burning.

PLANS AND SPECIFICATIONS

Prescribed Burning Specifications must adhere to all applicable NRCS policies in the General Manual and the National Range and Pasture Handbook, as well as all applicable state and local laws, ordinances, and regulations. This includes North Dakota Century Code, Chapter 18, Section 18-07-06 and 18-08-01 --- 07, also, North Dakota Air Pollution control Regulations, "Open Burning Restrictions, Chapter 33-15-04, Section 33-15-04-02. Necessary approval, permits, and variances will be obtained by landowner or land operator prior to conducting the prescribed burn.

A Prescribed Burn Plan will be developed, using form ND-CPA-338, February 2, 1994, which will contain the specifications for conducting the prescribed burn for the specific area.

Fire Behavior Prediction will be calculated and attached to the Prescribed Burn Plan.

The Prescribed Burn Plan will contain provisions for conducting a post-burn evaluation.

The specific objective or purposes of the prescribed burn will be documented in the Prescribed Burn Plan including species targeted for improvement and/or control.

The Prescribed Burn Plan must show that appropriate fire control authorities or organizations have been notified.

The Prescribed Burn Plan must show that neighboring landowners have been notified.

All agencies and individuals contacted and notified prior to the burn (listed and confirmed in burn plan) must be notified following completion and mop-up of the burn

The Prescribed Burn Plan must be signed and dated by the landowner or operator accepting responsibility for liability under the plan.

The Prescribed Burn Plan must be approved by a NRCS employee having appropriate job approval authority for prescribed burning.

OPERATION AND MAINTENANCE

Post-burn evaluations, as identified in the Prescribed Burn Plan, must be completed to determine whether the objectives of the burn were achieved.

To achieve benefits of the prescribed burn, other practices in a Conservation Management System need to be carried out as planned.

Under poor growing conditions, low plant vigor, and/or downward trend, range or pasture will require one full growing season of deferment from grazing, or incorporated into a planned grazing system that provides for post-burn deferments.

Under good growing conditions, good plant vigor, and static or improving trend, grazing can begin as soon as grasses reach normal range readiness or 6 to 8 inches of new growth on tame pasture grasses.

PERFORMANCE CRITERIA

This practice will be completed when the prescribed burn has been carried out according to the design specifications and the desired resource management objectives have been achieved or identified resource problems have been solved.